



Montana Department of Transportation
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Construction Memorandum

To: Distribution

From: Paul Jagoda, P.E.
Construction Engineering Services Engineer

Date: December 19, 2007

Subject: Standard Specification Section 409 Seal Coat Revisions

This memorandum updates the previous construction memo dated June 14, 2004, with the subject title Standard Specification Section 409 Seal Coat. Effective September 1, 2007 revisions have been made to the Section 409 Seal Coat Standard Specification. The intent of this memorandum is to clarify changes to the specification and their effects on other areas within MDT.

Revisions to the specification include:

➤ Subsection 409.03.3 Limitations and Recommendations

A recommendation statement has been added giving consideration to the release of light organics from bituminous products. A minimum 72 hour curing period is recommended between the placement of plant mix bituminous surfacing, fog seal, and seal coat. An incomplete cure could result in changes in the chemistry of the asphalt therefore affecting the adhesive properties of the bituminous product.

➤ Subsection 409.03.6 Application of Fog Seal

When paving and seal coat placement are performed in the same calendar year, this specification now requires a fog seal prior to the application of the seal coat. This applies to Grade S and Grade D plant mix surfaces.

For a period of time after placement, Grade S and D mixes typically exhibit high surface void areas. The purpose of a fog seal is to fill a portion of the surface voids, resulting in more seal coat oil remaining on the plant mix surface to embed chips.

In cases when the application of a seal coat is delayed until the following season, a fog seal is not required. The kneading effect of vehicle tires and application of sanding materials serves to reduce the surface void area.

In either case, it is strongly recommended that plant mix surfaces be evaluated prior to seal coat application. Areas of concern, such as those exhibiting localized segregation should be thoroughly documented.

Fog seal emulsions (CSS-1 & SS-1) will continue to be diluted one part water to one part emulsion, for quality control purposes, the cut will take place at the point of manufacture. When an emulsion supplier's product is not listed on MDT's Qualified Products List, field personnel will obtain samples as outlined in MDT Materials Manual Section MT-601 and note on the sample container that the product has been diluted.

Bituminous materials used for fog seal are measured and paid separately. Unit bid items and basis of plan quantity information will be provided in the plans.

➤ Subsection 409.03.7 Application of Seal Coat Materials

To clarify the intended location of longitudinal joints, the following language was added: "Locate longitudinal joints at the centerline or lane line. Obtain approval from the Project Manager to construct the joint at any other location."

➤ Subsection 409.03.8 Warranty

With this revision, the warranty period for all projects has been extended to the first Wednesday in December of the same calendar year. This will simplify the warranty evaluation process for Project Managers and ensure the seal coat has been subjected to cooler temperatures prior to warranty expiration.

Throughout the warranty period, MDT personnel must carefully document (photos, video, diary) the progression of the seal coat cure. Frequency and type of documentation will be dictated by the number and severity of potential problem areas.

At the end of the warranty period, the EPM will facilitate and conduct an on- site inspection. Based on findings from this inspection, the Project Manager will send a letter to the Contractor stating whether or not repairs are required and at which locations. Copies of this letter will be sent to the District Construction Engineer, Materials Bureau, Construction Engineering Services Bureau, Construction Administration Services Bureau, and the project file.

PJ/WCF/wcf

copies: District Construction Engineers
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